



## Social inequality and marginalization in post-disaster recovery: Challenging the consensus?



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### ABSTRACT

Disasters and subsequent recovery efforts often reinforce social inequality and marginalization, hampering sustainable development paths. This paper presents an analysis of inequality and marginalization effects of post-disaster reconstruction from a risk governance perspective. Using a mixed-methods approach, we examine the Fischerdorf and Natternberg districts of the German city of Deggendorf, severely affected by the 2013 floods in Europe. The findings show that social inequality and marginalization affected housing reconstruction (and vice versa) in unexpected ways. Uninsured groups (such as the elderly and migrant homeowners) received prompt, ad-hoc support from state and civil society actors, while insured homeowners (mostly higher-income groups) experienced ongoing disputes between state and market actors that hampered their recovery. Some marginalized groups could not access state support, as various aspects of cultural diversity were not adequately considered. This fostered, and created new, patterns of inequality and risk. The ad-hoc engagement of civil society was crucial, but insufficient, to fully buffer the effects of inequality and marginalization resulting from formal recovery processes. We conclude that it is critical to give more attention to the interplay, and power constellations, between state, market and civil society actors to facilitate sustainable recovery and development – by counteracting potential inequality and marginalization effects. Increased consideration of cultural diversity and the support of citizens who play dual roles (and can mediate between different actors) was identified to be vital in this context. We thus call for increased research into the issue of complementary city–citizen rights and responsibilities in risk reduction and adaptation planning.

### 1. Introduction

While risk governance is considered to be key to ensuring sustainable and inclusive recovery following a disaster and reduce future risk [57], social processes that lead to inequality and marginalization can undermine this goal [50]. Marginalization can be defined as a “process by which a group or individual is denied access to important positions and symbols of economic, religious, or political power within any society” ([50]:437). Accordingly, marginalization is generally defined in relation to deprivation of resources and the ability of people or groups to avail themselves of options that are open to others, usually because of economic deprivation, social isolation and lack of influence upon political processes (ibid). In this context, the concept of facilitation is used to describe associated, institutionally mediated processes that can enhance the unequal distribution of risk within societies and the built environment [15]. Facilitation “denotes how powerful groups are provided security to exploit environmental opportunities associated with hazardous places” ([15]:22), leading to a production of “patterns of

differential hazard vulnerability” (ibid).

Risk governance aims to manage risk, for instance through regulatory frameworks that outline the distributed responsibilities of citizens, businesses, and state institutions [47,61,63]. An example is flood risk management. There are, conversely, examples where the distribution of responsibilities has led to a mismatch between the levels of protection provided by state institutions and what individuals are required or expected to contribute themselves, leading to the marginalization of citizens who cannot access or afford protective measures [35,63]. How this mismatch unfolds, the related roles of actors, and the specific causes and outcomes are central topics of critical hazards and disaster research [15,16,21,54,67,68]. Still, seemingly unexpected outcomes of post-disaster recovery surprise observers, again and again.

The success or failure of housing reconstruction is a particular example. An in-depth investigation of the influence of reconstruction and related governance processes on inequality, marginalization and associated facilitation is important to understand whether recovery goals are met, why homes are rebuilt (or not), and how sustainable risk

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reduction can be achieved. Reconstruction during post-disaster recovery is generally viewed as a window of opportunity to reduce risk, as it offers the chance to ‘build back better’ and, thus, also reduce the social inequalities that can be the outcome of disasters [51]. At the same time, housing reconstruction is known to be “a major post-disaster challenge, in terms of policy, finance and logistics” ([42]:202). In this context, research thus far has progressively gained insights on the roles of actors, and how interactions within related governance constellations influence post-disaster marginalization [36,40,66]. Still, more research is called for to adequately understand the underlying processes that lead to seemingly surprising or unexpected outcomes of disaster, particularly during the recovery and reconstruction phases [12,34,42,51,57,63].

Against this background, this paper presents an analysis of inequality, marginalization and associated facilitation processes in post-disaster reconstruction. The subject of the study is the city of Deggendorf in Germany in the aftermath of the 2013 European floods. Residents of the districts of Fischerdorf and Natternberg<sup>1</sup> were severely impacted by long-standing floodwater, combined with contamination from heating oil. In many cases, demolition became the only feasible option.

The following section presents the concepts and methodology used in this empirical case study (Section 2). It is followed by a description of the planning context in Germany, in particular Deggendorf, with respect to the 2013 floods that hit Europe (Section 3). After presenting our findings (Section 4), we discuss the identified key features, and suggest future research and policy recommendations (Section 5).

## 2. Methodology

We used a case study approach [72] to gather empirical data on the “unusual” case ([24]:102) of marginalization and facilitation in post-disaster reconstruction, and to draw from “multiple sources of evidence” ([72]:18). Consistent with the research focus, the theoretical framework used for data collection and analysis is based on concepts of risk governance, marginalization and facilitation, applied to the assessment of interactions between state, civil society and market actors in flood risk management [61]. These interactions relate to the processes by which a group or individual is denied access to important positions and symbols of economic or political power [50]. The term ‘governance’ has typically been used in relation to changes in the public sector that have taken place since the 1980s, and that have led to what is described as a shift from a hierarchical bureaucracy towards greater use of markets, quasi-markets, networks and partnerships [8].

In critical hazards and disaster research, the nexus of state, market, and civil society is a central research topic. Political ecology-oriented approaches emphasize the roles of marginalization and vulnerability within this nexus [54,68]. To provide a nuanced theoretical basis for the understanding of the underlying processes, marginalization and vulnerability can be juxtaposed with so-called facilitation, in order to detect “mechanisms through which social systems (re)distribute, export, and concentrate risks among individuals, groups, places, and ecosystems” ([15]: 37). Facilitation is considered an “institutionally mediated process” ([16]:258) that is indicative of the role of “prevailing power relations” ([16]:263) in the development of settlement space subject to differential risk. It can assist to foster an understanding of seemingly contradictory observations.

Risk governance, in particular, is characterized as multi-level interactions among, but not limited to, three main actors: the state, the market, and civil society. Within such “systems of governing risk” ([61]:64), stakeholders have often diverging agendas, and they interact formally and informally with one another to formulate and implement

policies in response to environment-related demands [47]. They are bound by rules, procedures, processes, and widely-accepted behaviour, while aiming to achieve sustainable development [57]. In this context, social scientists point out that how different stakeholders define environmental conditions and risk is reflected in their actions more than actual conditions ([14]:63). This emphasizes the importance of viewing disasters as a social construction, and hence as a “product of the impact of a natural hazard on people whose vulnerability<sup>2</sup> has been created by social, economic and political conditions” ([13]:2). Concepts of social construction in disaster research are compatible with risk and environmental governance concepts, in that they both emphasize the role of human agency in the context of (rapid) environmental change and increasing risk [8,14,70].

Similarly, the social construction perspective highlights that people and communities can actively change their level of exposure and vulnerability to potentially harmful events, processes that can both create and perpetuate inequalities and marginalization [14,69]. Typically, marginality that existed before a disaster persists afterwards, and may even increase, due to various, overlapping, environmental, social or political aspects that hamper access to essential resources and positions [67,69]. Populations that are particularly affected include women, children, the elderly, minorities, and poor households [41,68]. Elites and associated power mechanisms can play significant roles in this regard. Pelling [45] emphasizes how elites can for instance co-opt community-based organizations in the context of historic and contemporary vulnerabilities. Takasaki [55] notes that elite capture of resources can extend to the alteration of recovery programs and inefficient disaster management. This is also supported by Özerdem and Jacoby [43] and Barenstein [4] who point out that conflicts of interest between elites, civil society groups and the state can lead to inappropriate reconstructions efforts.

Data were collected and analysed during 2013–2016 in several phases. Research methods included interviews with eight key informants, reviews of documentation, walk-through analyses, a survey of 53 households, observation and geographical analyses. During the initial explorative phase, qualitative open-ended interviews were conducted with key informants from regional and local institutions, surveyors, non-profit organizations, and affected residents. The aim was to retrace interactions between the various actors in the recovery phase, notably government officials, the private sector and civil society, whose roles partly overlapped (Table 1). Interviewees were selected using purposeful sampling [38], mainly based on reviews of documentation (e.g., newspaper reports, official data and recovery documentation). Literal reading and qualitative content analysis were used for the data analysis [20,49]. Finally, walk-through analyses in affected areas made it possible to triangulate the data.

In a second phase, a questionnaire was administered to 53 homeowners (representing 130 household members) in the area. Participants were purposively selected based on information obtained from interviews with key informants and the review of documentation (see above). The questionnaires were completed either while the authors were present, or were collected later. As the sample was too small to be representative, the results were triangulated with official statistics. The statistical analysis assessed personal and geographical data in the affected areas pre- and post-flood in 2013, and was drawn from official records for Deggendorf [52,53].

## 3. Case study context

The 2013 floods impacted several countries in central Europe, among them Germany. In May 2013 precipitation exceeded monthly averages by up to 300% throughout the country. Continuous rainfall led

<sup>1</sup> In this paper, Natternberg denotes two distinct, adjacent settlements, Natternberg and Natternberg Siedlung.

<sup>2</sup> Vulnerability is defined as “the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard” [58].

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